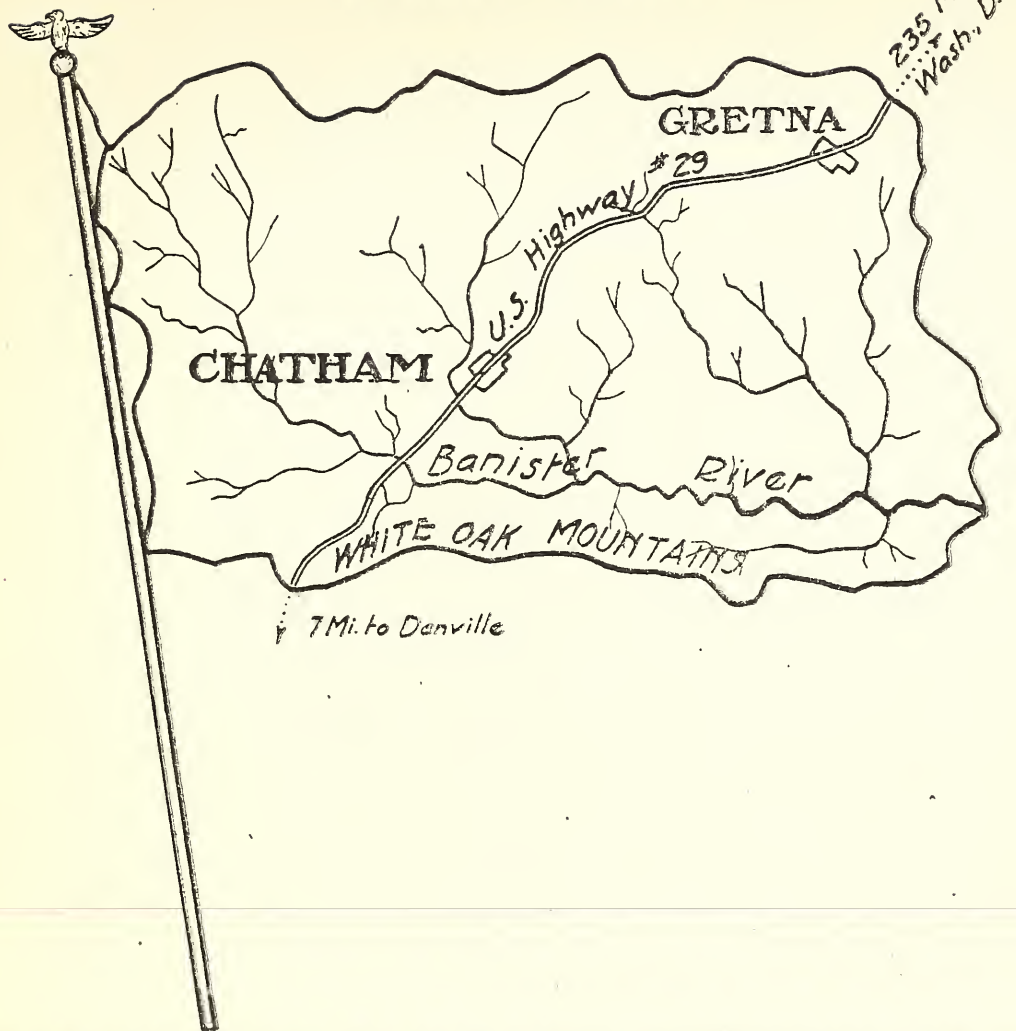


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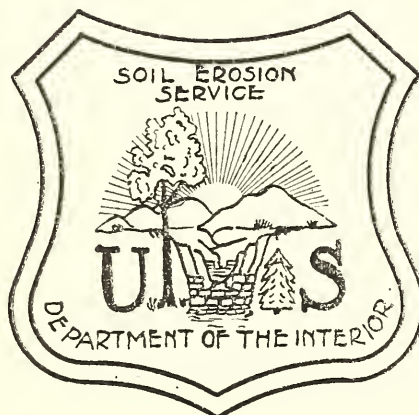
Do not assume content reflects current scientific knowledge, policies, or practices.



October 1st, 1934



# Banister River Banner



V. 1, No. 33

CHATHAM, VIRGINIA

# AMERICA IS AT THE CROSSROADS

America has not escaped periods of storm and stress, since white men first landed on the shores. Starvations, pestilence, and savage forays played havoc with the infant settlements. Wars and panics have visited the growing nations. Time and again no man could say that national integrity could be preserved, but none of these misfortunes have menaced the future of our people so much as the deterioration of the soils. Wars end, and nations heal their wounds, panics pass and prosperity returns, but the erosion of the soil goes on with the grim persistence of death. Hillsides are denuded of trees and rains carry away the top soil, leaving behind raw wounds that grow worse with neglect. Rich bottom lands become practically covered with unproductive soil from the hills and their fertility lessened. In some cases, sands reduce such land to sterile waste. In the valley of the Staunton River there lies the site of an old Indian village, where at one time the Red men, attracted by it's fertility, established a permanent town. Where in those days were rich corn fields, now sand bars cover the area, brought in by the floods and freshets, and sand burs grow - nature's last effort to provide a protective cover.

Reservoirs fill with silt and become useless. Most mill dams in Piedmont Virginia are reservoirs no longer. Filled with silt they can only provide a fall of water. The United States has an area larger than Maryland and Virginia, formerly in cultivation, now destroyed by the forces of nature. In addition to this, 125 million acres, now in cultivation, have much of the productive top soil stripped from it. This would be over three times as much as the combined area of the two states. Nor is this the end. Each year the list of ruined acres grows larger. Our better soils are either being ruined outright or their productivity lowered. America is at the cross roads.

Perhaps it is hard for us to realize this. It is nearly impossible to fully see the damage if our view point is entirely local. But if one will cast a backward glance, he will find that nearly every great tribal movement of man was prompted by the waning fertility of the soil. All through history, the spectre of poor soil has dogged his footsteps. Now that he has pushed back the last frontier, he must either stand and fight or sink to a level of living not compatible with American standards, and in the future centuries there lurks a gaunt figure, who's name is starvation. America is at the cross roads.

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## 1. SOIL EROSION LITERATURE AVAILABLE FROM U. S. SOIL EROSION SERVICE, PROJECT NO. 22, CHATHAM, VA.

The Cost of Soil Erosion	-	By H. H. Bennett
Using Soil-Binding Plants to Retain Gullies in the South	-	By H. G. McGinnis
Lime in Agriculture.		
Strip Cropping to Prevent Erosion	-	By H. V. Geib
Gullies-How to Control and Reclaim Them.	-	By C. E. Ramser
Soil Erosion a National Menace	-	By H. H. Bennett & W. R. Chapline



## PROTECTION OF SOIL VITAL TO EROSION CONTROL

That erosion takes place rapidly on unprotected soil is so well known that it scarcely seems worthy of mentioning. However, the following figures from the Statesville, North Carolina Soil Erosion Experiment Station show a marked difference in the amounts of soil carried off of unprotected land, of land in cotton continuously and of land in grass.

On a Cecil sandy clay loam on a 10% slope, the run-off of water on unprotected soil amounted to 32% of the amount that fell and carried off 65 tons of soil per acre. On land continuously in cotton there was a 10% run-off of water and loss of 14 tons per acre. On a grass sod the run-off amounted to only 5% of water and .8 of a ton of soil per acre. Bearing in mind that there are approximately 1200 tons of earth per acre, varying with the soil type, in a 6 in. covering, and assuming a virgin soil of 6 in. in depth, the following interesting facts are apparent.

It would take 1500 years at this rate to remove the top 6 inches of soil from such an acre of grass. In the meantime, it would be somewhat offset by the formation of the new soil. Assuming that an inch of new soil would be gained every 400 years, we would gain 3.7 inches new soil during the 1500 years period. Thus, actually losing only 2.25 inches of soil during the 1500 year period.

Using the same basis of comparison, unprotected land would be stripped of the top 6 inches in 18.46 years. Theoretically, there might be a fractional gain but it would be safe to say that unprotected land of this soil type on such a slope would lose the equivalent of the top 6 inches in about  $18\frac{1}{2}$  years. Of course, this would not be a uniform stripping under actual conditions, but the land loss in tons would be equivalent to it. This may seem hair splitting to a casual reader. We feel, however, that the effort is justified. We present it to you in an attempt to fix in your mind a definite picture of the actual loss that has been and is going on around us all the time.

## SOIL EROSION WORKERS TRAINING COURSE

The entire group of college men who enrolled in the training course on September 10th, are busy absorbing a working knowledge of Soil Erosion problems. They are doing actual field work, constructing check dams, completing terrace fills and outlets, assisting with record keeping and several have been assigned to the Agronomy and Drafting departments. They are enthusiastic workers and greatly interested in Soil Erosion control.

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We agree with the "Brown Creek Watershed", Wadesboro, North Carolina, when they say:

"We welcome the visitor with the inquiring mind--the man that wants to know--we are anxious to pass information along--anxious to create in the minds of the people a consciousness of the soil erosion problem".

## ECONOMIC STUDIES

The Department of Agricultural Economics at Virginia Polytechnic Institute, in cooperation with the Soil Erosion Service of the United States Department of the Interior, have obtained from approximately 700 farmers in Pittsylvania County information sufficient for calculating farm incomes and costs and returns in producing tobacco for the farm year, 1933. This information will be summarized and analyzed to determine the reasons why some farms in this region are more profitable than others, and why tobacco is more profitable on some farms. Undoubtedly, type of soil and the amount of soil erosion on the tobacco fields will prove to be important factors, but in order to know how important, it is desirable to measure the effect of these factors in terms of dollars and cents. If soil erosion control is to accomplish anything in the way of increasing farmers' incomes it should be measurable in terms of money. It is hoped that a similar economic study may be repeated after soil erosion control has been in effect, so as to get some measure of the actual dollars and cents value of such a service to the farmers. In addition to this, it is hoped that the economic study will provide information as to the most profitable methods of tobacco farm organization and management so that individual farmers may obtain ideas which will help them make more money.

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## SIGNS OF THE TIMES

Not only in the east, where we suffer from water erosion is the problem serious. Most Virginians now living will carry to their graves the memory of the dust storm of May 11, 1934. It is not easy to forget the ominous dun pall that crept across the sky and thickened as the day advanced. Few of us at the time knew what it was. Even yet it is hard for one unfamiliar with the conditions at its point of origin to visualize the actual damage. But in its wake lay fields stripped of much of their fertility. Fine particles of soil, carrying the most readily available plant food, were swept eastward and carried into the Atlantic Ocean. Heavier, less valuable particles were drifted along, covering fences and banking up against houses and buildings. Along its path in some sections, livestock died from the actual dirt gathered in their stomachs while grazing. It was in effect, a warning that man's greed and carelessness may create a vast desert where once lay thousands of acres of good grazing land. It is not necessary to leave Virginia to point out the damage being done by water erosion. Almost any farm in Pittsylvania County, and adjoining counties, is a good example. However, the case of Stewart County, Georgia is so spectacular that it should be mentioned here.

— In this county 70,000 acres, about  $\frac{1}{2}$  of its area, have been permanently destroyed by gullying. This was at one time, some of the best farming land in that section of the state. Only the slow march of time, which takes no account of humanity, can ever restore this ruined territory. Some gullies were over 200 feet deep. One of these engulfed a schoolhouse, 2 farm buildings, and a grave yard of 50 graves. Down the channel of the Chattahooche River to the Gulf of Mexico, drifted this odd assortment of wreckage, composed of soil, homes and the bones of the dead. Not even man's last resting place escaped the ravages of the uncontrolled waters. Startling as this may seem, it represents only an infinitesimal portion of the tremendous damage being done in the South each year.



NOTES FROM OTHER U. S. SOIL EROSION SERVICE PROJECTS

Quoting the "Stillwater Creek News",  
Stillwater, Oklahoma:

"'In the beginning God created the heavens and the earth'.....  
..... but, alas! Man, too, was created. He was a greedy creature. He destroyed trees to make room for fields that would produce cash crops; he let his cattle over-graze pasture lands to increase his profits; and in his mad rush to get quick profits he did nothing to help Mother Nature hold valuable soil that was created over a period of many centuries. As a result of the greed of God's last creation EROSION is now the greatest problem confronting the American people."

"'Land impoverished by rain-wash is a farm problem that outstrips any of the temporary economic worries about which we have heard so much recently.'  
- H. H. Bennett, National Director  
Soil Erosion Service."

"Pastures often prove more profitable than cultivated fields."

"God has lent us the earth for our life. It is a great entail. It belongs as much to those who are to come after us as to us and we have no right by anything we do or neglect to involve them in any unnecessary penalties, or to deprive them of the benefit which was in our power to bequeath.

-Ruskin."

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From the Lone Star State in the "Duck Creek News", Lindale, Texas:

"We can all see the damage and inconvenience caused by a gully in a field but sometimes we fail to take into consideration that gullies grow deeper, wider, and longer each year unless they are controlled."

From the "South Tyger River News",  
Spartanburg, S. C.:

"It is estimated that the Mississippi River carries over 1,000,000 tons of sediment into the Gulf of Mexico every day, or over 400,000,000 tons per year. Professor Salisbury says: It would take each day 900 trains of 50 cars each, each car carrying 25 tons, to carry an equal amount of sand and mud to the Gulf. All the rivers of the earth together are perhaps carrying to the sea forty times as much as the Mississippi.

This builds up land at its mouth very quickly. New Orleans, first established as a trading post at the mouth of the 'Father of Waters', is now more than fifty miles inland."

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From the "Northwester", Pullman, Wash.:

"Now that the harvest rush is over let's get together and work out plans with those who did not have an opportunity to take advantage of the Soil Erosion Service this spring. Our field men and farm planning sections are ready to begin the work of making and checking several hundred cooperative agreements. If you are interested in greater net profits, building up the soil, decreasing floods, decreasing gullies, and planning for the future, drop us a line at once that we may get in touch with you. You need our cooperation. We stand ready to cooperate. Let's get together at once."

We extend a similar invitation to all landowners in the Banister River Watershed area.

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From the "Tarheel Washoff" at High Point, North Carolina:

"Washoff from sloping land planted to lespedeza is only from 1/12 to 1/15 as much as from bare ground and from 1/5 to 1/10 where a cultivated crop is grown.

Keep the cream of the land out of the streams."

THE SOIL EROSION SERVICE AND WILD LIFE CONSERVATION

By: Ross O. Stevens, Forester  
In Charge, Wild Life Conservation  
U. S. Soil Erosion Service,  
Project No. 12, High Point, N. C.

Much interest has recently been manifested in the wild life program of the Soil Erosion Service. This Service is the one Federal agency which is actively cooperating with sufficiently large areas of agricultural and semi-agricultural lands to make a general agricultural upland game management program feasible. The location of the various projects, the general types and conditions of lands involved and the very purposes of the soil erosion control program all combine to make possible a very well balanced game and wild life management program.

Our wild life program is based on the proper control of environments. Each species of animal has certain definite requirements to be most successful in its fight to propagate and increase itself. Our problem is to regulate and control environments so as to make conditions more suitable for the more desirable forms of wild life and less suitable for the less desirable forms. We will hope to point out the various direct and indirect values of the various animals as our program progresses. It is our purpose to demonstrate and instigate practices and procedures which will be practical and possible for each farmer to put into active practice. At the same time our program will work in very closely with the soil erosion program, will tend to make it more permanent, and should make possible a definite annual revenue from the yearly game crop.

Practically every major operation of the Soil Erosion Service if properly managed can be made to improve the environments for desirable forms of wild life. Conversely, if not properly considered certain operations may tend to make conditions not only unsuitable for desirable species, but rather a haven for undesirable species. Terracing and strip cropping should make for better combinations of food and cover. The planting of gullies and badly eroded areas should add much desirable cover. Other forestry operations if properly managed will improve environments. The planting of large acreages of lespedeza will greatly increase the food supply for quail and doves and other desirable birds. The many little odd corners common to farm lands in this region will be effectively utilized to improve cover, food and other necessities.

These are a few of the many problems which our program will consider. Before even a tentative program can be set up for any particular area it will be necessary to make a general survey of that area. It is our intention to make the survey and plan for the Chatham, Virginia, project as soon as possible. It is apparent that a large number of the farmers are eager to cooperate with us. We appreciate this interest.

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An instructive bulletin, "Improving the Farm Environment for Wild Life", by Wallace B. Grange, may be secured by addressing the U. S. Department of Agriculture, Washington, D. C.



### WHAT OTHERS THINK

Mr. A. H. Easley, near Concord Church, says the C.C.C. boys are doing a worthwhile job in completing terrace outlets and building check dams. He says further, "I think the land around here certainly needs some erosion control work. Many of the fields are run down and badly washed. I wouldn't like too much interference with the cropping plan on some of my fields because I make my living from the cash crops I harvest".

Don't worry, Mr. Easley, the S.E.S. is not going to ask you to decrease your acreage of cash crops. Our aim is to improve your land and give you a better return.

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TYSON N. C. BULLETIN: - The smallest newspaper in the United States had the following quotation:

"Plant Lespedeza - good idea."

Mr. W. S. Bailey of near Chalk Level walked up to a Soils man mapping in a neighboring field.

Mr. Bailey asked, "Are you a Soil Erosion Service man?"

Soils man, "Yes sir; I am".

Mr. Bailey, "I was too busy to go to your meeting, but the other day I received the first copy of the Banister River Banner and the enclosed invitation blank. I filled out and sent in the invitation blank right away. I think you have a good farm program and can help the farmers, and I hope you will come to my farm soon."

Soils man, "Thank you for the invitation. We will come to your farm as soon as possible and do our best to help you."

### BOOKS DEALING WITH GRASSES

Anyone wishing a complete discussion of the various grasses and forage crops grown in this country may find it in the following:

Native America Forage Plants, by Arthur W. Sampson

A Text-Book on Grasses, by G. S. Hitchcock

Forage Plants and their Culture, by C. V. Piper

### AGRICULTURAL FAIRS

Visit the U. S. Soil Erosion Service, Project No. 22, Exhibit at the following fairs:

Virginia State Fair, Richmond, Va.

October 1, 2, 3, 4, 5, and 6.

Henry County Fair, Martinsville, Va.

October 1, 2, 3, 4, 5, and 6.

Halifax County Fair & Tobacco Exposition,

South Boston, Va.

October 9, 10, 11, 12, and 13.

Danville Fair, Danville, Va.

October 16, 17, 18, and 19.

The U. S. Soil Erosion Service displayed photographs of the work in the Banister River Watershed area, as well as models of contrasting farms, at the Franklin County Fair, Rocky Mount, Va.; Roanoke Fair, Roanoke, Va.; and Lynchburg Fair, Lynchburg, Va. The farmers attending these fairs were greatly interested and asked many questions regarding Soil Erosion Control work.

### AGRONOMY NOTES

The Agronomy Department has been busy during the last few weeks distributing seed and fertilizer to farmers who have signed the Cooperative Agreement. Most of these cooperators have begun their hay and pasture mixture and by the end of the fall seeding season the S. E. S. program will be well under way.

It is getting too late to seed hay or pasture mixture alone, but grasses may be seeded with small grain any time during October. Rye may be used for spring pasture provided it is not grazed heavy enough to injure the young grass.

Lime has been purchased and shipments will begin about October 1st.

Special attention is being called to a few farms of the area which will be somewhat of a demonstration of recommended practices.

D. E. Nuckols, Jr. is establishing strip rotations on one field with terraces and on another field without terraces. He has already gotten a perfect stand of a grass and clover mixture and will bear watching during the next few years.

W. I. Green has a good demonstration of contour strips without terraces and we will be interested in watching his progress. - We would like to drop a hint that he might have a few visitors provided he works his farm road.

We hope to report the progress on other farms from time to time.

### FORESTRY DEPARTMENT

Since President Roosevelt has proclaimed the week beginning October 7, 1934, as "FIRE PREVENTION WEEK", it is quite appropriate that we review our own losses from fire and make suitable plans to avoid these in the future.

Everyone keenly realizes and dreads the loss sustained when buildings burn, and practically everyone uses precautions to prevent such catastrophes. There is, however, a class of fires which are not recognized by all as great sources of private and public loss. These are the open air fires, either on lawns, in fields, or in the woods. The following rules are presented to prevent such fires and curtail losses:

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|--|--|
| 1. Don't throw away burning matches and cigarettes.  | 1. Put them out.   |
| 2. Don't leave fires burning unattended.   | 2. Stay with them until completely out.  |
| 3. Don't burn over fields. It wastes natural fertilizer and <u>promotes erosion</u> .  | 3. Turn the growth under while green.  |
| 4. Don't burn your woodlands. It kills young growth, and damages your most valuable lumber. It <u>promotes and encourages soil erosion</u> . | 4. Keep your woodland green a source of revenue, a home for game, a natural and effective check on <u>soil erosion</u> . |

Report all forest fires in the Banister River Area to the Soil Erosion Service at Chatham, Va., Phone 150, as soon as seen - we will help you control them.

SES-ECW CAMP NO. 1 NEWS

Mr. Benjamin F. Dyer, Superintendent, reports that from June 21st to September 25th inclusive, the ECW enrollees have constructed 1303 soil check dams in eroded gullies and terrace outlet water channels, sloped 2255 sq. yds. of gully banks, trenched 3854 lineal yards of diversion ditches on 25 farms in the area, and benefiting approximately 865.6 acres of land.

The second dance of a series contemplated by the 378th Company, C.C.C. was held in the American Legion ball room at Danville, Virginia, on Saturday evening, September 22nd. The music for the occasion was furnished by the Price-Fowler orchestra of Danville.

Mr. C. A. Whitehill, Superintendent in charge of the construction of the Camp buildings, reports that the winter quarters for the CCC and the SES Supervisory Personnel will be completed and ready for occupancy on or around October 1st.

SOILS DEPARTMENT

The Soils Department records show that the detailed soil and erosion survey has been completed on 175 farms covering a total of 26,322 acres. Mr. A. Yedinak is now a member of our department and is assisting in the detailed farm survey.

Rapid progress is being made in the reconnaissance survey of the state of Virginia. Mr. Nickels and Mr. Goldston have completely surveyed more than half of the counties in the state. They are recording soil, slope, and erosion condition and also indicating the use which is made of the land. Dr. E. P. Detrick of the U. S. Department of Agriculture, Erosion Experiment Station, Statesville, N. C., is assisting with the reconnaissance survey.

SOIL EROSION DEPARTMENT

At this time the Soil Erosion Department has completed agreements on 126 farms, totaling 16,578 acres. Approximately 5,536 acres will be terraced; 829 acres will be strip cropped, and 498 acres will go into permanent pasture. Seed, lime and fertilizer will be furnished on these permanent pastures where it is justified, or necessary, in order to stop erosion. In addition, where the landowner does not have sufficient fence, enough wire will be furnished to put three strands of barbed wire around the pasture. All materials furnished by the Soil Erosion Service must be justified by showing that they help prevent the land from washing away.

Those of you who are interested in getting your Cooperative Agreements signed up should persuade your neighbors to send in invitations so that a group of farms can be worked in that vicinity. This saves time and makes the project as a whole go forward much more rapidly.

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Landowners living within the Banister River Watershed area and interested in a soil conservation program, should call Telephone Chatham 150, or else write to U. S. Soil Erosion Service, Chatham, Virginia.



## AGRICULTURAL ENGINEERING DEPARTMENT

With the appearance of this issue of the Banner, several farmers are building their own terraces, with this office supplying the equipment and layout men. This is the kind of cooperation that will put our program across in great style. We greatly appreciate this spirit and hope that we will see more of it.

Our own equipment is going ahead at full speed, but it is impossible to get around to everyone before grain seeding time. If you are anxious to have a particular field terraced before sowing it to grain, why not ask for light equipment and build your own terraces? We have a supply of horse drawn terracers on hand for your use, and will gladly do the layout work and check your completed terraces.

## ARRIVALS AND DEPARTURES

Visitors from the U. S. Department of the Interior, Soil Erosion Service, Washington, D. C., during the month of September, included the following: Dr. H. H. Bennett, Director; Mr. C. B. Manifold, Soils Department; Mr. A. J. Thompson, Engineering Department; and Mr. Lyman Carrier, Chief Agronomist.

Mr. E. L. Evinger, Assistant Horticulturist, U. S. Department of Agriculture, Bureau of Plant Industry, in charge of Nursery at Statesville, N. C., spent sometime Thursday, September 27th, with Mr. Pike of the Forestry Department.

Mr. M. M. Hoover, Regional Director, and Mr. I. McKeiver, Agronomist, from the U. S. Soil Erosion Service, Spencer, W. Va., paid us a pleasant visit and were shown over the area.

Mr. Mike Kipp, Assistant Agronomist, Blacksburg, Va., spent sometime with the men in the Agronomy Department.

Callers from Project No. 12, High Point, N. C., included: Dr. J. H. Stallings, Regional Director; Mr. W. C. Kincannon, Soil Erosion Specialist; Mr. James A. O'Neill, Chief Clerk, and Mr. W. D. Lee, Soils Expert.

## PERMANENT STAFF MEMBERS

Dr. J. H. Stallings, Regional Director  
Mr. P. F. Keil, Assistant Regional Director

Mr. J. K. Alvis, Agri. Engineer	Mr. T. C. Maurer, Acting Soil Eros. Sp.
Dr. A. J. Baur, Soils Expert	Miss Juanita M. Mitchell, Junior Clerk
Mr. D. D. Bennett, Clerk	Mr. F. F. Nickels, Soils Expert, in Cg.
Mr. T. L. Copley, Chief Agronomist	Mr. T. G. Humm, Ass't Agri. Engineer
Mr. J. P. Crawford, Chief Clerk	Mr. J. B. Pike, Jr., Chief Forester
Mr. H. L. Duntun, Ass't Soil Eros'n Sp.	Mr. O. W. Price, Junior Forester
Miss Hallie W. Farson, Stenographer	Mr. J. A. Smart, Ass't Soil Eros. Sp.
Mr. T. H. Garrett, Jr. Agri. Engineer	Mrs. Nilla B. Tredway, Stenographer
Mr. E. F. Goldston, Soils Expert	Miss Helen F. Wooding, Stenographer
Mr. R. C. Harvey, Ass't Agronomist	Mr. Alec Yedinak, Jr. Soils Expert.
Mr. E. P. Howard, Draftsman	